DRPT

ARRA

Arkendale to Powell's Creek Third Track Project

Financial Plan

August 2009

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ARRA

1. Project Background Information

A. *Corridor Development Program Description*

During the past ten years, the Commonwealth of Virginia has made a significant commitment to improving rail infrastructure and passenger rail services. The Commonwealth has conducted numerous rail planning studies, supervised the development and construction of a number of projects, and allocated significant funds towards capital improvements in partnership with the freight railroads, intercity and commuter passenger service providers, and the Port of Virginia. These projects are located throughout the state with the majority of the investment in the Richmond to Washington, DC corridor.

In 2002, the Commonwealth, CSX, the Virginia Railway Express and representatives from the Federal Railroad Administration and Amtrak created the RF& P Corridor Task Force. This Task Force has worked to advance the implementation of intercity passenger rail in the Southeast High Speed Rail Corridor. The Southeast High Speed Rail Corridor in Virginia primarily follows a north south alignment which connects the existing Northeast Corridor with all points south of Washington, D.C. Additionally, environmental studies are underway to extend intercity passenger rail service of up to 110 mph to the Hampton Roads region.

The majority of north-south track in Virginia, referred to as the I-95 Rail Corridor, is owned and maintained by CSX Transportation. CSX has maintained the Corridor in a condition satisfactory for the current designated operating speed class. Current maximum operating speed in the Corridor is 70 mph for passenger trains. This Corridor Development Program allows the Corridor to increase to 90 mph and 110 mph depending on topography.

All Amtrak service to the Southeast that connects to the Northeast Corridor travels along the I-95 Rail Corridor. Virginia Railway Express (VRE) operates commuter rail service between Fredericksburg, VA and Washington, D.C. in the Corridor. The Commonwealth, VRE, and CSX have all invested in facility improvements to promote the reliable operation of freight and passenger rail based on the work of the Task Force.

As the Corridor has developed and the next phases of intercity rail and high speed rail have moved from concept into preliminary design, the Task Force has expanded its focus to extend to Petersburg, Virginia. The Task Force has developed a comprehensive list of projects that will improve travel time and capacity on the Corridor. These projects have been prioritized and represent a program of improvements that will increase reliability and safety in the

Corridor. This program of projects will be submitted as a Track 2 application in October 2009.

As the Commonwealth's lead rail agency, the Department of Rail and Public Transportation (DRPT) is submitting both a Track 1a and Track 2 application for American Recovery and Reinvestment Act of 2009 (ARRA) funding under the High-Speed Intercity Passenger Rail (HSIPR) Program. These applications represent a realistic development plan of the Southeast High Speed Rail Corridor in Virginia with improvements focused first on the intercity service between Petersburg and Washington, D.C. and the achievement of speeds up to 90 miles per hour.

B. *Arkendale to Powell's Creek Project*

i Description

The Track 1a application will fund the construction of 11.4 miles of third track from milepost CFP 72 at Arkendale, Stafford County, VA to CFP 83.4 at Powell's Creek, Prince William County, VA, on the CSX track. The proposed third track utilizes the vacant main line slot on the new double track Quantico Creek Bridge completed in 2007 between CFP 79 and 80 that parallels the original single track bridge. The $26M bridge was constructed with regional, Commonwealth of Virginia, and local funds. The project was delivered on time and on budget in this busy corridor.

In addition to the 11.4 miles of new third track, two new interlockings that will provide universal parallel movements between the three track segment and the existing double track at each end will be built. New small stream and creek bridges and drainage structures will be built adjacent to five existing structures. Grade crossing warning devices will be modified and/or upgraded at six existing crossings. Three existing sidings will be adjusted to accommodate the third track. Limited areas of right of way acquisition will be required; however, the majority of the project will be constructed on CSX right of way.

The project was developed through the efforts of the RF&P Corridor Task Force, of which FRA is a participant, to be cost effective by selecting project limits that provide significant length of third track without needing to build major river crossings. The Arkendale to Powell's Creek project does not rely on the construction of any other project to provide useful service. The third track segment, like other third track segments previously constructed, can be used to meet, pass, and overtake trains on the corridor to provide reliable schedule performance for the inter-city and high speed Amtrak passenger trains and VRE commuter trains, while preserving the freight operational environment.

ii Current Status

The Commonwealth has already completed 30% preliminary engineering and the required environmental analysis. The project is ready for final design and construction.

iii Implementation Schedule

See implementation schedule on the next page.

C. *Project Oversight and Funding Partners*

The proposed project involves four principal partners with varying degrees of project oversight and management responsibilities in addition to funding commitments. The following describes each partner's role and provides some related information about the project partner with respect to the role assumed for this project.

i Federal Railroad Administration

FRA provides grants for the development and implementation of national freight and passenger rail policy and financial assistance programs. As a member of the RF&P Corridor Task Force, FRA has participated as a corridor development partner with DRPT over the past ten years in its efforts to improve intercity passenger rail on this vital national rail line.

DRPT is requesting $74.84 million (year of expenditure). The FRA share of the estimated construction project cost is 100% with the Commonwealth and other partners already providing $3.6 million in funding for environmental and preliminary engineering. Additionally, the FRA will be looked upon as a project development partner to assist with project oversight and to provide guidance on rail safety and environmental issues.

ii Commonwealth of Virginia

The Commonwealth of Virginia has a long and proven history of its commitment to transportation. Virginia has had dedicated revenue for transportation since the early 20th century. Rail transportation has been a focal point in the Commonwealth's transportation program during the past decade with rail receiving the largest percentage increases in funding of

Project Name:	Arkendale to Powell's Creek Project
Track:	1a

	Calendar Year Quarter									
	2009	2010				2011				2012
	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st
Final Design (FD)										
Issue requests for bids, make awards of FD contracts										
FD Drawings; and cost estimate, schedule refinement										
Issue requests for construction bids										
Submit request / receive FRA approval for construction										
Make awards of construction contracts										
Construction										
Construct infrastructure										
Acquire and test vehicles										
Service Ops - Closeout										
Service Operations										
Completion of project/program close-out, resolution of claims										

all of the transportation modes during that timeframe. Actions taken include:

- In 2000 the Virginia Transportation Act of 2000 dedicated $65.7 million for passenger and freight rail improvements in the I-95 Rail Corridor and $9.33 million for passenger rail improvements in the I-81 Rail Corridor.
-
- In 2005 the Commonwealth established a dedicated source of funds, the Rail Enhancement Fund (REF), which provides approximately $25 million in annual funding for passenger and freight rail improvements from a 3% motor vehicle rental tax and the interest earnings of the funds cash balances.
-
- Capital Project Bonds for rail improvements were established by the General Assembly in 2007. The bond package includes a minimum of 4.3 percent of $3 billion in total available bond allocations specifically for rail transportation. In total, $113 million in capital project bond proceeds will be available for rail improvements through 2018.
-
- In *Chapter 897 of the 2007 Acts of the Assembly* $65 million of Commonwealth General Funds were provided for specific passenger and freight rail projects in the I-95 and I-81 corridors.

DRPT will be responsible for overall management and financial planning activities on the Arkendale to Powell's Creek project. In 1992, public transportation and rail activities were separated from highway functions into an independent state agency. The Commonwealth Transportation Board (CTB) provides policy guidance to the Department and allocates funding for public transportation and rail programs and projects. For FY 2010, DRPT has been entrusted with management of $2.2 billion of allocations for both transit and rail programs and projects.

The financial systems at DRPT have been utilized in the past to provide financial oversight to thousands of transit and rail projects including the Dulles Corridor Metrorail Project as well as numerous rail projects such as the Heartland Corridor initiative and the Quantico Creek Bridge construction. Additionally, DRPT maintains a General Financial Consultant contract that provides the agency with industry expertise when needed to supplement our internal resources. Other financial management support can be summoned from CTB's financial advisors, the Commonwealth of Virginia's Department of Treasury, and the Department of Transportation's Innovative Finance Division, which oversees CTB debt and innovative finance programs.

iii Virginia Railway Express

VRE functioned as the project manager during the preliminary engineering and environmental analysis phases of the project. Due to their familiarity with the project to date and the rail lines and operations impacted, VRE will serve as design/build project manager.

iv CSX

CSX is the owner of the rail lines and property on which the Arkendale to Powell's Creek project will be built. DRPT has a standing Framework Agreement with CSX that covers the subject 11.4 miles of track and associated items. CSX will not provide any funding to this project. CSX will act as the contractor on some of the work performed as required by the existing agreements. All improvements must be to CSX company standards and be approved by CSX and not decrease current freight capacity.

2. Capital Plan

The capital plan consists of the cost estimates mirrored to the anticipated project schedule as well as the plan for management of the capital funding while the project is being executed. This plan details the methodologies used in estimating the costs and the basis for escalating the costs to year of expenditure (YOE) dollars. The plan addresses funding shortfalls due to the timing of receipt of revenue compared to the timing of disbursements, as well as shortfalls due to budget risk associated with a project estimate based on 30% preliminary engineering.

A. *Capital Cost Estimate*

Table 2.1 summarizes the capital cost estimate developed at the completion of preliminary engineering. The estimate was developed using standard cost estimation techniques and methodologies utilized in the railroad industry. The $74.8 million YOE cost estimate is presented using standard FRA cost categories and quarterly time intervals for the two year project.

B. *Methodology*

The cost estimates have been developed using a standardized process and estimation sheet.

i Unit Prices

The estimates utilize a common set of unit prices. The unit prices are generally rolled-up items that incorporate subsystems into the price. For example, track construction is a unit price item that includes the ballast, ties, fasteners, other track materials (OTM), and rail material, plus labor and equipment needed to completely construct the track on a prepared sub-grade. Given the relatively low level of design, the reduced granularity in the items is considered appropriate.

Where the estimated quantities are easily determined at this level of design, unit prices have been provided for specific items. Electric lock items are a typical example of an item of work that can be easily quantified and for which a specific unit price is provided.

The unit prices have been developed from a wide range of sources including host railroad estimates, consultant estimates, and historical costs on DRPT projects.

ii Estimated Quantities

Estimated quantities are developed from the conceptual plans supplemented with track charts, valuation maps, aerial photography field visits, previous estimates, and studies. The intent of the estimated quantities is not to generate a bill of materials or parts list for the project; but rather to quantify, in general but accurate terms, the breadth of the project, the type of work required to complete the project, and the appropriate levels of effort. As the detailed designs are completed, detailed project specific estimates will be generated and will be used to produce more accurate values and lists of work items.

Some specific work items are easy to quantify, even at low levels of design, and the estimated quantities used for those values are as accurate as possible based on the base information available.

iii Contingency

Each of the individual estimates includes a contingency amount. The contingency is included to generate a project budget cost that is realistic and conservative so that as the detailed design progresses and more information about the project is developed, the contingency can be used to cover the cost of accommodating cost increases. The contingency percentage will be reduced at each major phase in the development of the project until it reaches 10%.

At the current levels of project development, the contingency used is typically 25% because there are many unknown conditions that may, and likely will, be found as detailed design progresses.

iv Peer Review

Upon completion of the draft estimates, DRPT has employed a peer review process to review estimates. Knowledgeable staff, stakeholders, and outside consultants are used to review the estimates. The peer reviews verify that the unit prices used are reasonable based on recent bid history, the quantities properly reflect the breadth of the project, and the overall project estimate represents a reasonable budgetary number for the project. The draft estimates are adjusted to reflect the peer review input and become the final estimates.

Table 2.1
Capital Cost Estimate by Quarter
Arkendale to Powell's Creek Third Track
(YOE $ in thousands)

FRA Cost Category	Jan - Mar 2010	Apr - Jun 2010	Jul - Sep 2010	Oct - Dec 2010	Jan - Mar 2011	Apr - Jun 2011	Jul - Sep 2011	Oct - Dec 2011	Jan - Mar 2012	Project Total
10 TRACK STRUCTURES & TRACK	$ -	$ -	$ 2,808	$ 4,801	$ 5,303	$ 5,771	$ 6,083	$ 4,320	$ 2,110	$ 31,196
20 STATIONS, TERMINALS, INTERMODAL	-	-	96	774	479	536	31	-	-	1,916
40 SITEWORK, RIGHT OF WAY, LAND, … ..	-	-	1,393	3,945	4,876	6,269	7,662	3,718	-	27,863
50 COMMUNICATIONS & SIGNALING	-	-	-	815	164	492	820	1,916	2,351	6,558
80 PROFESSIONAL SERVICES	482	723	723	463	474	698	1,024	1,308	1,412	7,307
Total	$ 482	$ 723	$ 5,020	$ 10,798	$ 11,296	$ 13,766	$ 15,620	$ 11,262	$ 5,873	$ 74,840

C. *Cost Escalation*

The project cost presented in this financial plan reflect the reasonable and conservative inflationary rates to reach year of expenditure estimates for each cost category. The cost estimates were prepared in constant 2010 dollars and assumes an inflation rate of 4%. The annual rate of inflation was utilized thorughout construction of the project to convert constant dollars to YOE amounts. Construction costs were escalating until early 2008. The subsequent economic downturn has resulted in some contraction of costs, and major heavy civil projects have seen bids significantly lower than estimates. The overall historic rate of 4% was selected as a middle ground projection for the next two years. This rate is consistent with escalation factors used by the railroad industry within Virginia.

D. *Capital Funding Management*

This section represents the most likely financing tools and approaches planned for the cash management of the project. For the capital plan, FRA ARRA funds are assumed to be available for design and construction expenditures according to Table 2.1. DRPT will draw down the funds on a reimbursement basis utilizing short term interfund loans from available cash balances to finance the approximate one to two week interval between disbursement and receipt of funds from the FRA. Available cash balances could come from existing rail enhancement funds or from the CTB controlled Priority Transportation fund (PTF). The PTF was established as a source of funding for high-priority projects of regional or state-wide significance.

i Funding Shortfalls

The ability to successfully implement the project if the receipt of Federal funding does not occur would depend on the length of the federal delay. The aforementioned short term borrowing approach noted for coverage for drawdowns would be utilized at no cost to the project if the receipt of federal funds were delayed up to one year. Longer delays would require a more permanent solution and possible amendment to the cost estimate to include financing costs.

If the contingency built into the project budget is not sufficient to allow the project to be completed, the Commonwealth will complete the project at its cost using the various revenue sources discussed throughout this report. Special action would need to be taken by the CTB or the Virginia General Assembly as certain fund sources would require special language to allow

their use on the project with appropriate matching funds. Additionally, the Commonwealth has prepared a PMP that includes value engineering and project controls to deliver the project on-time and on-budget; however, the Commonwealth reserves the right to terminate the project if unforeseen cost overruns are deemed too cost prohibitive as design and construction of the project advances. In such case, any federal funds received for the project at the time of the occurrence would be returned to the FRA.

3. Operating Plan

The project will benefit from a new intercity train service from Richmond, Virginia to Washington, DC with a projected start date of December 2009. The Commonwealth Transportation Board allocated $4 million to Amtrak for refurbishment of a rail car set for the new daily service. Additionally, the CTB allocated other Commonwealth transportation funds of $2.2 million per year for a three year demonstration period to cover the operating subsidy required by Amtrak. The Commonwealth intends to continue this service past the three year demonstration period and funding will be provided for the operational subsidy.